

Attorney Docket No. 45858/55672

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Mindy D. Goldsborough

U.S.S.N.: 09/725,897

GROUP: 1634

FILED: November 30, 2000

EXAMINER: Sisson, Bradley

FOR: METHODS FOR THE STORAGE AND SYNTHESIS OF NUCLEIC ACIDS  
ON A SOLID SUPPORT

\*\*\*\*\*  
CERTIFICATE OF MAILING

I hereby certify this correspondence and the documents referred to as attached herein are being deposited with the United States Postal Service as First Class Mail addressed to Assistant Commissioner for Patents, Washington, D.C. 20231 on September 26, 2002.

By: Regina M. Edwards  
Regina M. Edwards

\*\*\*\*\*  
Commissioner of Patents  
Washington, D.C. 20231

TRANSMITTAL LETTER

Transmitted herewith for filing in the above-referenced patent application are the following documents:

- 1) Amendment (90 pages including Appendix I);
- 2) Amendment Transmittal (4 pages) (x2);
- 3) Copy of Office Action of March 26, 2002 (15 pages);
- 4) Check #709150 in the amount of \$1100.00 representing the 3-month extension fee (\$920.00) and IDS fee (\$180.00);
- 5) Form 1449;
- 6) IDS Transmittal (4 pages);
- 7) Ref. AA - U.S. Patent 5,496,562;
- 8) Ref. BA - WO 98/44161;
- 9) Ref. BB - WO 98/51699;
- 10) Ref. CA - BioTechniques Journal Article Vol. 20., No 6 (1996);
- 11) Ref. CB - Analytical BioChemistry Journal Article Vol. 247 (1997);
- 12) Transmittal for Declaration and Power of Attorney;
- 13) Declaration and Power of Attorney for Fox (4 pages);
- 14) Declaration and Power of Attorney for Goldsborough (4 pages);
- 15) Transmittal of Formal Drawings (2 pages);

TECH CENTER 1600/2900

OCT 02 2002

RECEIVED

- 16) Notice of Draftsperson's Patent Drawing Review;
- 17) Formal Drawings (2 pages);
- 18) Diskette Containing Sequence Listing;
- 19) Transmittal for Submission of Sequence Listing (5 pages) (x2);
- 20) Statement to Support Filing and Submission of Sequence Listing (2 pages);
- 21) Printout of Sequence Listing (Paginated) (4 pages);
- 22) Printout of Sequence Listing (Unpaginated) (4 pages);
- 23) Declaration of Kathryn A. Piffat, Ph.D. regarding incorporation of references (3 pages);
- 24) This Transmittal Letter (x2);
- 25) Certificate of First Class Mailing; and
- 26) Return Postcard.

The Commissioner is hereby authorized to charge any excess fees that may be required, or credit any overpayment to Deposit Account No. 04-1105. A duplicate copy of this sheet is enclosed.

Respectfully submitted,



---

Kathryn A. Piffat, Ph.D.  
Reg. No.: 34,901  
DBRC, Intellectual Property Practice  
Group of  
EDWARDS & ANGELL, LLP  
P.O. Box 9169  
Boston, Massachusetts 02209  
Tel.: 617-439-4444  
Fax: 617-439-4170

Date: September 26, 2002



Attorney Docket No. 45858/55672

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**APPLICANT(S):** Mindy D. Goldsborough et al.

**U.S.S.N.:** 09/725,897  
**FILED:** November 30, 2000

**GROUP ART UNIT:** 1634  
**EXAMINER:** Sisson, Bradley

**FOR:** METHODS FOR THE STORAGE AND SYNTHESIS OF NUCLEIC  
ACIDS ON A SOLID SUPPORT

\*\*\*\*\*

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on September 26, 2002.

By: Regina M. Edwards  
Regina M. Edwards

\*\*\*\*\*

Assistant Commissioner of Patents  
Washington, D.C. 20231

Dear Sir:

Transmitted herewith for filing in the above-referenced patent application are the following documents:

1. Declaration and Power of Attorney executed by Mindy D. Goldsborough {4 pages};
2. Declaration and Power of Attorney executed by Donna K. Fox {4 pages};
3. This Transmittal Letter.

**NOTE:** If there is a fee deficiency and there is no authorization to charge an account, additional fees are necessary to cover the additional time consumed in making up the original deficiency. If the maximum, six-month period has expired before the deficiency is noted and corrected, the application is held abandoned. In those instances where authorization to charge is included, processing delays are encountered in resuming the papers to the PTO Finance Branch in order to apply these charges prior to action on the cases. Authorization to charge the deposit account for any fee deficiency should be checked. See the Notice of April 7, 1986, 1065 O.G 31-33.

[X] If any additional extension and/or fee is required, this is a request therefor and to charge Account No 04-1105.

Sept. 26, 2002  
**DATE**

Kathryn A. Piffat, Ph.D.  
**SIGNATURE OF PRACTITIONER**

Customer No.: 21,874

Kathryn A. Piffat, Ph.D. Reg. No.: 34,901  
David G. Conlin Reg. No.: 27,026  
Intellectual Property Practice Group  
Edwards & Angell, LLP  
P.O. Box 9169  
Boston, MA 02209

**RECEIVED**

OCT 02 2002



O I P E  
SEP 30 2002  
PATENT & TRADEMARK OFFICE

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,897	11/30/2000	Mindy D. Goldsborough	45858/55672	9257

7590 03/26/2002  
David G. Conlin  
Dike, Bronstein, Roberts & Cushman, LLP  
Edwards & Angell, LLP  
P.O. Box 9169  
Boston, MA 02209

RECEIVED APR 01 2002 EDWARDS & ANGELL LLP DIKE BRONSTEIN ROBERTS CUSHMAN	EXAMINER
	SISSON, BRADLEY L
	ART UNIT PAPER NUMBER
	1634 6
DATE MAILED: 03/26/2002	

Please find below and/or attached an Office communication concerning this application or proceeding.

*Amendment*  
Edwards & Angell LLP  
Dike, Bronstein, Roberts & Cushman  
101 Federal St. Boston, MA 02110  
Date Rec'd 4/1/02  
Docketed For Jun 26 - Sep 26, 2002  
By K.P.  
Approved me 4/1/02

RECEIVED

OCT 02 2002

TECH CENTER 1600/2900

# Office Action Summary



Application No.

09/725,897

Applicant(s)

GOLDSBOROUGH ET AL.

Examiner

Bradley L. Sisson

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Notice to Comply.

Art Unit: 1634



## DETAILED ACTION

### *Location of Application*

1. The location of the subject application has changed. The subject application is now located in Group 1630, Art Unit 1634, and has been assigned to Primary Examiner Bradley L. Sisson.

### *Priority*

2. Acknowledgement is made of where applicant identifies several applications as being related to the subject application; see page 1, first full paragraph. Applicant needs to identify how these various applications are related to the subject application and to make the statement of claim to benefit of priority in a single sentence.  
Appropriate correction is required.

### *Oath/Declaration*

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application-number and filing date is required. See MPEP §§ 602.01 and 602.02.
4. The oath or declaration is defective because:

The oath or declaration does not contain reference to applications for which a claim of priority is made (see page one of the specification).

***Information Disclosure Statement***

5. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

***Specification***

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
7. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

8. The attempt to incorporate subject matter into this application by reference to a provisional and to a non-provisional US patent is improper because these applications are being relied upon for enablement of applicant's preferred embodiment. See page 19, lines 15-18.

***Sequence Rules Compliance***

9. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth below or on the attached Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures. See pages 27-29, and 31.

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As presently worded, the claims are drawn to a method whereby cDNA is produced. Upon review of the disclosure it is noted that the specification seeks to incorporate by reference disclosures in non-published US Patent Applications wherein these disclosures are of a preferred



embodiment. As indicated above, applicant cannot incorporate by reference essential materials, which, as here, is deemed by applicant to be representative of their preferred embodiment.

While applicant can incorporate by reference essential subject matter when it is found in a published US Patent, such latitude is not accorded when the document is a non-published application, be it from the US or otherwise.

12. Claims 6 and 7 are not enabled by the disclosure whereby any and all RNA in a cell is retained in a useful length when the cell is simply allowed to die and is dried, as is encompassed by the claims. It is well known that RNA is highly sensitive to degradation yet the claimed method places no limitation on the manner in which the cell, and its RNA, be it tRNA, mRNA, rRNA or mitochondrial RNA is preserved *ad infinitum*, without any precautions.

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

15. Claim 7 contains the trademark/trade name FTA. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a

trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a type of paper and, accordingly, the identification/description is indefinite. Claim 6, from which claim 7 depends, is similarly rejected as an independent claim encompasses all of the limitations of the claims that depend therefrom.

***Claim Rejections - 35 USC § 102***

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

17. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

18. Claims 1, 2, and 4 rejected under 35 U.S.C. 102(e) as being anticipated by Hornes (US Patent 5,759,820).

19. Hornes et al., columns 6-8, disclose binding of mRNA to a solid support and then subjecting the isolated/immobilized mRNA to a reverse transcriptase so to produce a

corresponding cDNA. The aspect of synthesizing a double-stranded cDNA is also disclosed therein.

20. These showings meet a limitation of claims 1, 2, and 4.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

21. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by a desert highway road kill.

As presently worded, all that is required for preservation of RNA in a cell is tht the cell be contacted with a solid support and allowed to dry. Such limitations are readily achieved by the untimely demise of fauna on desert highways where they undoubtedly come into contact with a solid support and are allowed to dry, as is the case where insects are thinly and rapidly applied to a solid surface and are quickly brought to a desiccated state by the passing of a high rate of air flow over their remains.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

22. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Pharmacia Biotech Catalog (1994).

23. Pharmacia Biotech Catalog (1994), page 119, discloses for sale spin columns that are packed with oligo(dT)-cellulose and that these solid supports are used in the isolation of mRNA, and its subsequent use in the synthesis of cDNA and in polymerase chain reaction; a type of nucleic acid amplification assay.

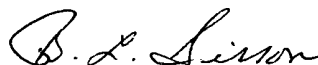
24. While the catalog does not speak explicitly of the cDNA being double-stranded, such is considered an inherent property in view of the cDNA being used on a PCR assay which is

Art Unit: 1634

predicated upon the use of primer pairs where one primer is directed to each strand of a double-stranded template (cDNA).

*Conclusion*

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley L. Sisson whose telephone number is (703) 308-3978. The examiner can normally be reached on 6:30 a.m. to 5 p.m., Monday through Thursday.
26. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones can be reached on (703) 308-1152. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9307 for After Final communications.
27. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



Bradley L. Sisson  
Primary Examiner  
Art Unit 1634

bls  
March 25, 2002

# Notice of References Cited

Application/Control No.

09/725,887 SEP 30 2002

Applicant(s)/Patent Under  
Reexamination  
GOLDSBOROUGH ET AL.

Examiner

Bradley L. Sisson

Art Unit

1634

Page 1 of 1

## U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,756,126	05-1998	Burgoyne	424/488
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

## FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

## NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Pharmacia Biotech, Biotechnology Products Catalog, 1994, page 119.
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.